INTERNATIONAL SYMBOLS

CAUTION: RISK OF ELECTRIC SHOCK

AC (ALTERNATING CURRENT)

DC (DIRECT CURRENT)

 REFER TO INSTRUCTION MANUAL

GROUND

 FUSE

DOUBLE INSULATION

ON/OFF, PUSH BUTTON SWITCH

C. TECHNICAL DATA

1. Features and Benefits

Safety	Meets CE and IEC 1010 requirements. UL Listed to U.S. and Canadian Safety Standards.
Large LCD	Easy to read at all angles and the majority of lighting levels. 4000 Count.
Rubber Boot	Added protection when the instrument is dropped. (135NB does not include boot.)
Multi-function	Measure all electrical characteristics with one meter.

2. Product Applications

Perform the following tests and/or measurements with the TPI 135 and the appropriate function:

HVAC/R

FUNCTION	
DCmV	• Thermocouples in furnaces or gas applications.
ACA	• Heat anticipator current in thermostats.
ACV	• Line voltage.
ACV or DCV	• Control circuit voltage.
CAP	• Motor start and run capacitance.
DCμA	• Flame safeguard control current.
OHMS	• Heating element resistance (continuity).
OHMS	• Compressor winding resistance.
OHMS	• Contactor and relay coil resistance.
OHMS	• Continuity of wiring.
DCmV	• Temperature with optional temperature adapter (A310).

ELECTRICAL

FUNCTION	
ACV	• Measure line voltage.
OHMS	• Continuity of circuit breakers.
DCV	• Voltage of direct drive DC motors.

3. Specifications

IEC 1010 Over Voltage:
CAT II - 1000V
CAT III - 600V
Pollution Degree 2

a. DCV

Range	Resolution	Accuracy	Impedance
400mV	0.1mV	±0.5% of reading, ±2 digits	10MΩ
4V	0.001V		
40V	0.01V		
400V	0.1V		
1000V	1V		

b. ACV (60Hz to 400Hz)

Range	Resolution	Accuracy	Impedance
400mV	0.1mV	±0.8% of reading, ±3 digits	10MΩ
4V	0.001V		
40V	0.01V		
400V	0.1V		
750V	1V		

c. DCA

Range	Resolution	Accuracy	Overload Protection
40µA	0.1µA	±0.5% of reading, ±3 digits	Fuse* F600V, 2A, 31CM
400µA	0.001mA		
40mA	0.01mA		
400mA	0.1mA		
2A	0.1mA		
10A	0.01A	±1.2% of reading, ±3 digit	Fuse* F600V, 10A, 31CM

*Warning: Use only correct size, voltage and current rated fuses.
Test Leads: Use only correct type and overvoltage category rating.

d. ACA

Range	Resolution	Accuracy	Overload Protection
40µA	0.1µA	±0.8% of reading, ±3 digits	Fuse* F600V, 2A, 31CM
400µA	0.001mA		
40mA	0.01mA		
400mA	0.1mA		
2A	0.001A		
10A	0.01A	± 3% of reading, ± 7 digits	Fuse* F600V, 10A, 31CM

e. OHM (Resistance,Ω)

Range	Resolution	Accuracy	Overload Protection
400Ω	0.1Ω	±0. 75% of reading, ±3 digits	600V DC or AC Peak
4kΩ	0.001kΩ		
40kΩ	0.01kΩ		
400kΩ	0.1kΩ		
4MΩ	0.001MΩ		
40MΩ	0.01MΩ	±1% of reading, ±3 digits	

f. Diode Test

Test Voltage	Max Test Current	Over Load Protection
3V	Approx. 1mA	600 V DC or Peak AC

g. Continuity Buzzer

Test Voltage	Threshold	Over Load Protection
3V	<100Ω	600 V DC or Peak AC

h. Capacitance

Range	Resolution	Accuracy	Overload Protection
400µF	0.01µF	±2% of reading, ±3 digits	600V DC or Peak AC
20000µF	0.1µF	±3% of reading, ±5 digits	

i. General Specifications

Power Supply	9 Volt Battery
Battery Life	560 hrs. Alkaline
Size (H x L x W)	33mm x 86mm x 187mm (1.3" x 3.4" x 7.4")
Weight	340g (12 oz)

*Warning: Use only correct size, voltage and current rated fuses.
Test Leads: Use only correct type and overvoltage category rating.

135 Specifications (also see pages 8-9.)

Function	Range	Resolution
DCV	400mV	0.1mV
	4V	0.001V
	40V	0.1V
	400V	0.1V
	1000V	1V
ACV	400mV	0.1mV
	4V	0.001V
	40V	0.01V
	400V	0.1V
	750V	1V
DCA	40µA	0.1µA
	400µA	0.001mA
	40mA	0.01mA
	400mA	0.1mA
	2A	0.1mA
	10A	0.01A
ACA	40µA	0.1µA
	400µA	0.001mA
	40mA	0.01mA
	400mA	0.1mA
	2A	0.001A
	10A	0.01A
OHM	400Ω	0.1Ω
	4kΩ	0.001kΩ
	40kΩ	0.01kΩ
	400kΩ	0.1kΩ
	4MΩ	0.001MΩ
	40MΩ	0.01MΩ
CAP	400µF	0.01µF
	20,000µF	1µF

	Test Voltage	Max. Test Current
Diode	2.5V	Approx. 1mA

	Test Voltage	Threshold
Continuity	2.5V	<100Ω

Test Products International, Inc.

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